

Although this is not a book for the beginner in zoology, he would glean much from its pages. The factual data, though briefly stated, represent years of study by biologists in all portions of the world. Dr. Yonge gives constant reference to the researches of others and has an interesting way of presenting personalities concerned in this research in the history and development of the natural sciences and the growth of the science of Oceanography and Ecology, particularly in the British Isles.—RUTH D. TURNER.

MacGinitie, G. E. and Nettie MacGinitie 1949, *Natural History of Marine Animals*, McGraw-Hill Book Company Inc., New York, 473 pages, 282 figures.

For one seeking acquaintance with the varied fauna of the sea shore this book should be a real help. It is essentially an introductory text book surveying the phyla from a natural history point of view, stressing the habits and relationships of the animals rather than their anatomy. As much of the book is based on the personal observations of the authors it is written with a stimulating enthusiasm. Though most of the animals considered are from the Pacific coast of North America, the habitats and habits of closely related forms may be sufficiently close so that the book can serve as a guide elsewhere. The many hints regarding methods and techniques of observation are also helpful.

The first twelve chapters are devoted to generalized discussions of such subjects as Food, Sense Organs, Luminescence, Marine Animal Habitats, Variation and Succession, and Relationships. The remaining chapters are devoted to a survey of the phyla, the length of each chapter depending on the size of the group, its importance and interest.

The illustrations in the book though of excellent choice as to subject matter are often rather poorly executed, especially some of the half-tones. The line cuts as a whole are good.

The chapter on mollusks in which we were particularly interested covers 74 pages and in general is a good survey of the group from the limited point of view of the littoral marine habitat. It gives an excellent picture of their general structure, function and mode of life, without being burdened by an enormous number of details and complicated terms. There are, however, several rather basic errors which we believe should be noted. In discussing the structure of the shell the authors speak of a "middle lusterless thick limey layer and an inner pearly lustrous layer of nacre." Both the middle and inner layers are of calcium. The middle layer should be referred to as the prismatic layer as in this layer the calcium is laid down in prismatic crystals. The inner layer should be referred to as the laminated layer because here the lime is laid down in thin layers and may or may not be nacreous. This explains why most shells lacking luster, cannot produce valuable pearls. They also state that "cowries and related species dissolve the columella or central column of the shell and thus leave a single large cavity without spirals." No group of mollusks completely dissolves the internal whorls: the columella must remain for the attachment of the columella muscle. So far as we know, most if not all members of the Conidae possess opercula. We wonder where the figures on weights for the Giant Squid were obtained; they seem to be tremendously over-estimated. From the specimens of the Teredinidae which we have examined, the siphons are not long proportionately as they extend out only a short distance from the base of the pallets.

The authors state that they have purposely left out references to the papers of other research workers from which they have drawn information. This is to be regretted. The bibliography at the end of the book is exceedingly brief and general and it would be a most difficult task to locate the original work if one was interested in so doing.

—RUTH D. TURNER.